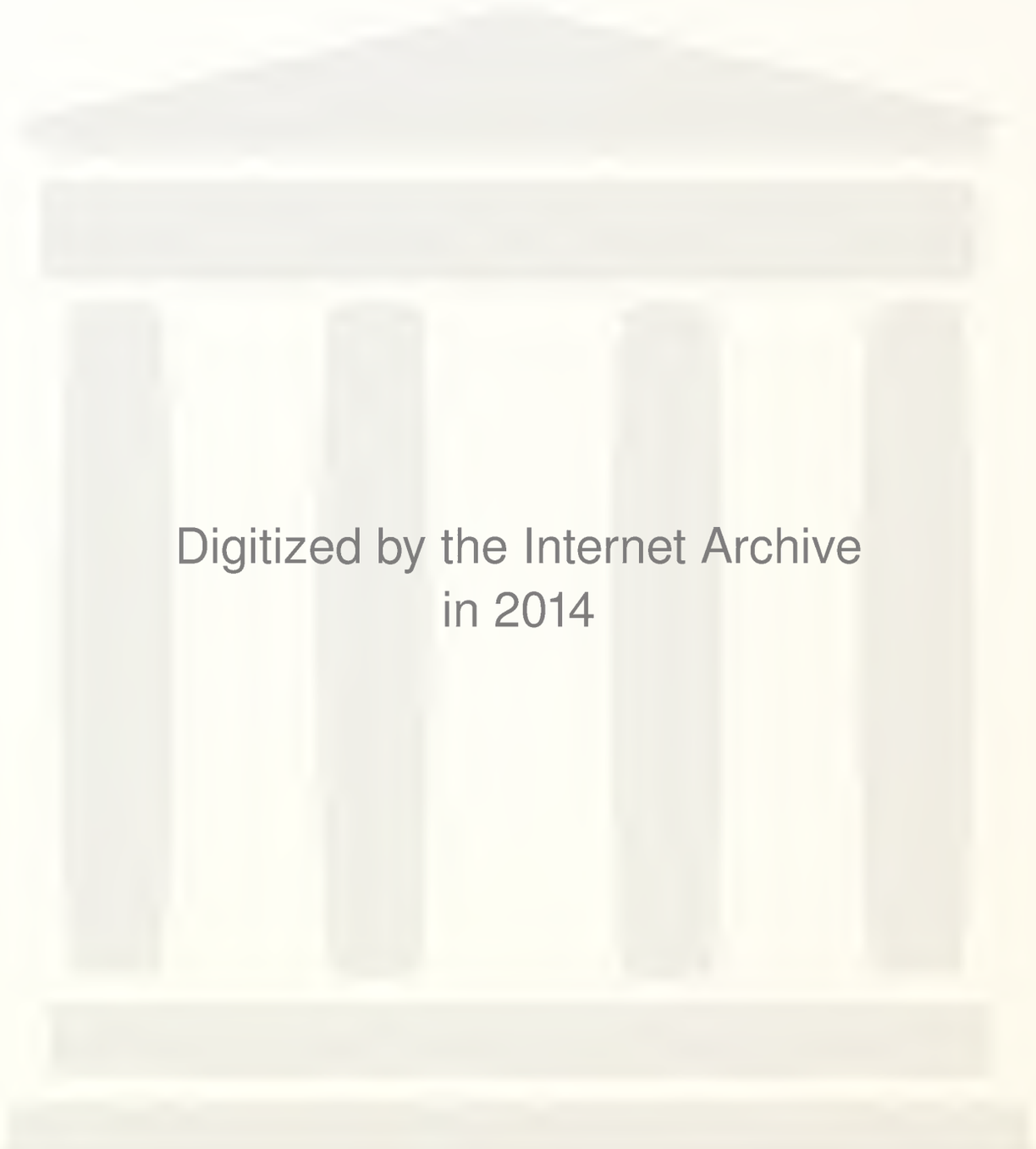
Status Report:

THE INFORMATION SERVICES INDUSTRY

INPUT®

1943 Landings Drive, Mountain View, CA 94043



STATUS REPORT:
THE INFORMATION SERVICES INDUSTRY

SEPTEMBER 1986

AUTHOR

TITLE STATUS REPORT: THE INFORMATION SERVICES INDUSTRY

DATE LOANED	BORROWER'S NAME
11/17	Randi

STATUS REPORT:
THE INFORMATION SERVICES INDUSTRY

CONTENTS

STATUS REPORT:
THE INFORMATION SERVICES INDUSTRY

EXHIBITS

I INFORMATION SERVICES INDUSTRY GROWTH AND STRUCTURE

- Over the past decade the information services business in the U.S. has grown dramatically, nearly tenfold. This exceptional growth, nearly 26% per year, has resulted in an annual business volume now nearing $50 billion, as shown in Exhibit I-1.

- As the industry has grown, the rate of growth has decreased only slightly in the past five years to 22%.

- Although the overall growth of the information services business slowed in 1985 (from 22% in 1983-1984 to 14% in 1984-1985), INPUT expects that growth in the industry will renew its vigor and will average growth between 16% and 20% over the next five years.

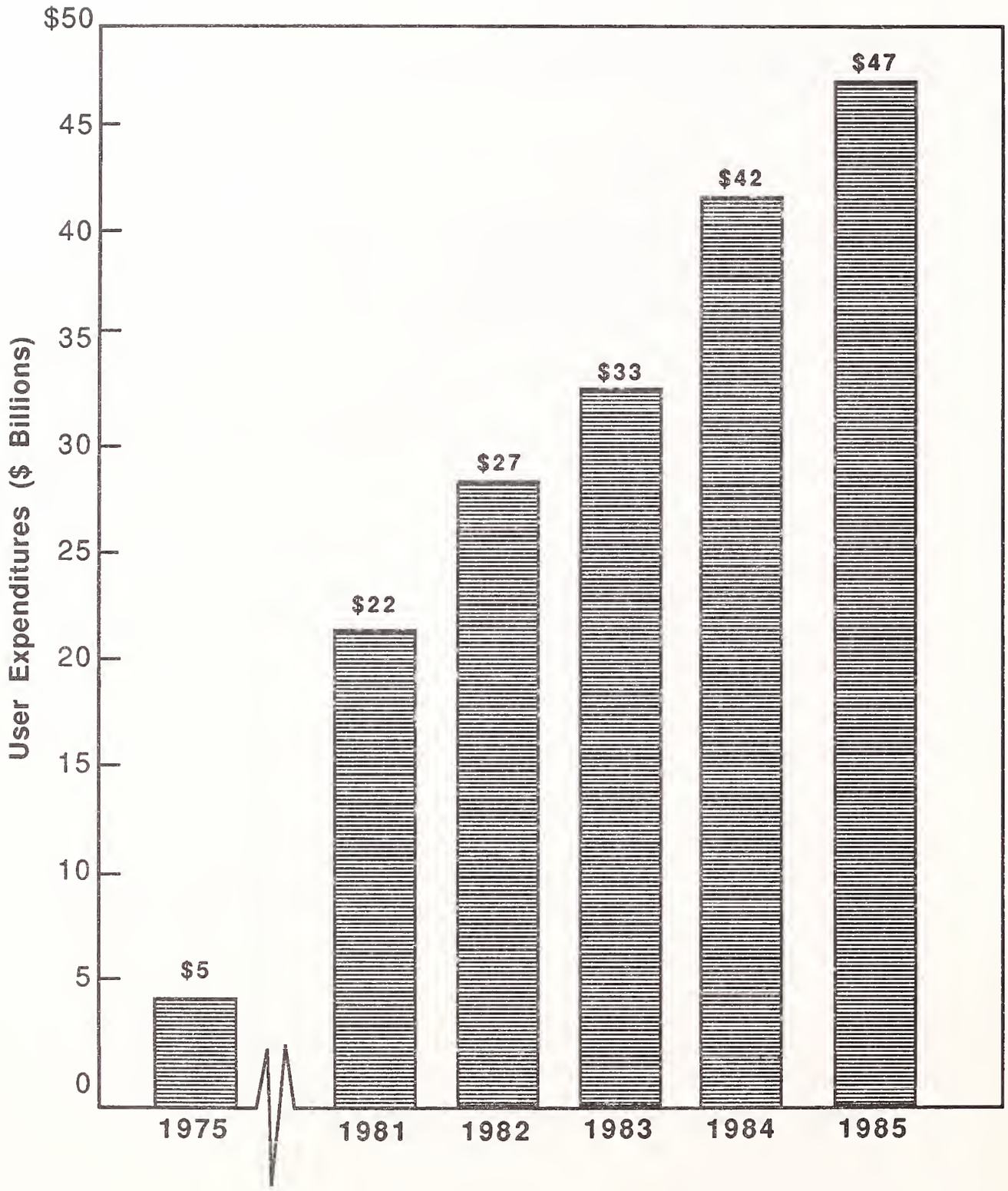
- However, vendor characteristics in the market will change appreciably.

  - Computer manufacturers will increase their share as they seek to retain profit margins and growth being rapidly eroded by declining hardware prices. All leading manufacturers are aggressively expanding their service offerings.

  - Communications companies, particularly the Regional Bell Operating Companies (RBOCs), will target network services and software as they seek to add value to their "commodity" communications services.

EXHIBIT I-1

USER EXPENDITURE GROWTH IN INFORMATION SERVICES, 1975-1985



* Note: Definition changes have slightly affected the gross market size on a year-to-year basis.

- Information companies will deliver an increasing amount of their product electronically.

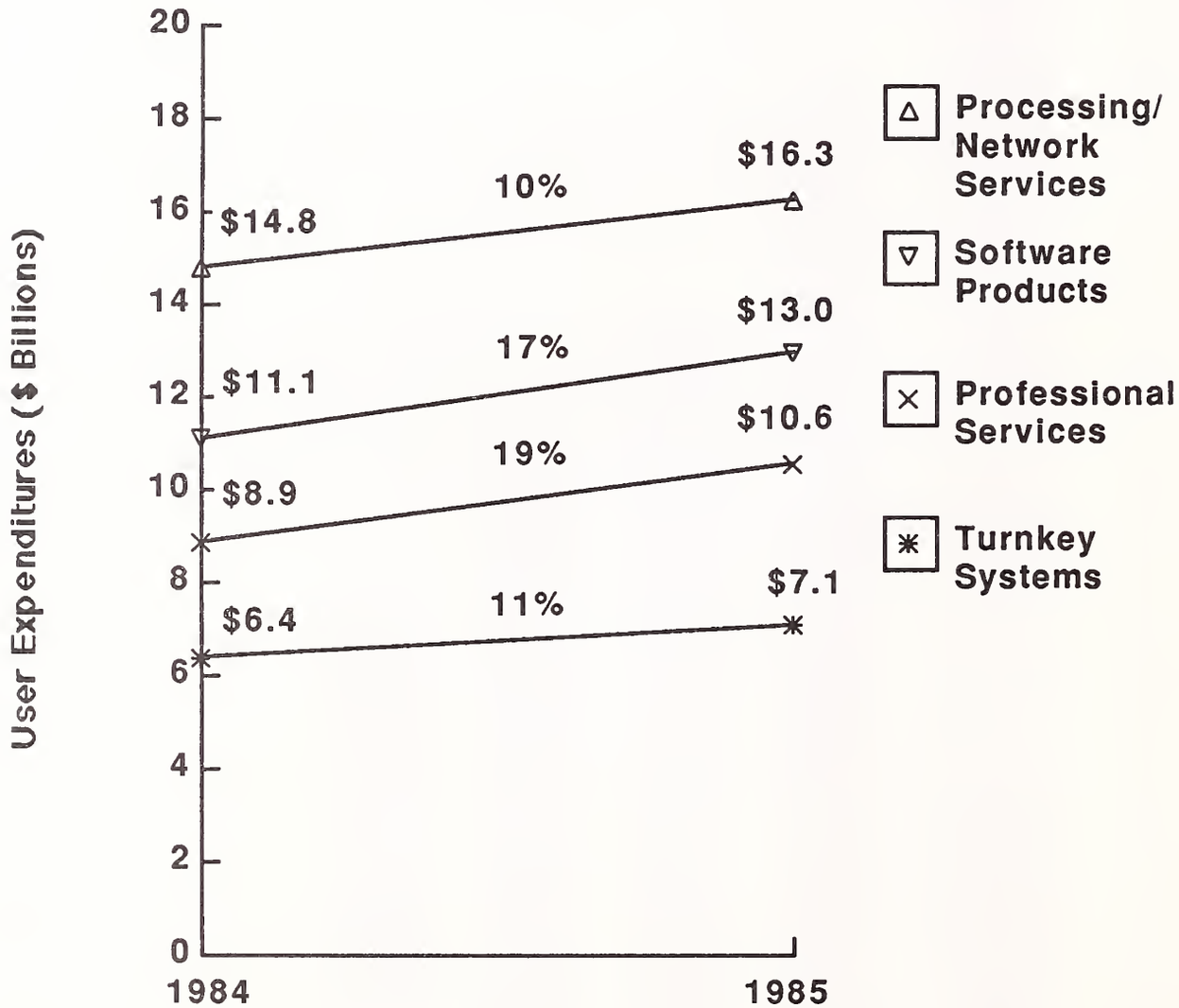
- Companies from other industry sectors, notably finance and banking, will offer specialized services which extend their normal product/service lines. Such companies will include distributors, transportation companies, and utility companies as well as the traditional large manufacturers.

- The influx of large companies into the market will be tempered, however, by the recent poor results of many traditional vendors and of other large companies that have ventured into the industry.

- The growth from 1984 to 1985 by mode of service is shown in Exhibit I-2. The professional services sector is fairly steady from 1984 to 1985. However, the growth rates in 1985 in processing services, software products, and turnkey systems are down substantially. These shifts will be discussed further in subsequent sections.

EXHIBIT I-2

USER EXPENDITURE GROWTH BY MODE OF SERVICE



II PROCESSING/NETWORK SERVICES MARKET

- In 1975, the processing services market just passed the $2.5 billion level; by 1980 it was $9.4 billion; today it is over $16 billion, as shown in Exhibit II-1.

  - The rate of growth for the decade was 21%.

  - Growth over the 1980-1985 period slowed to 13% as vendors realigned their positions in this changing market.

- INPUT predicts the growth in this sector of the industry will gradually accelerate so that expenditures will have almost doubled by 1990.

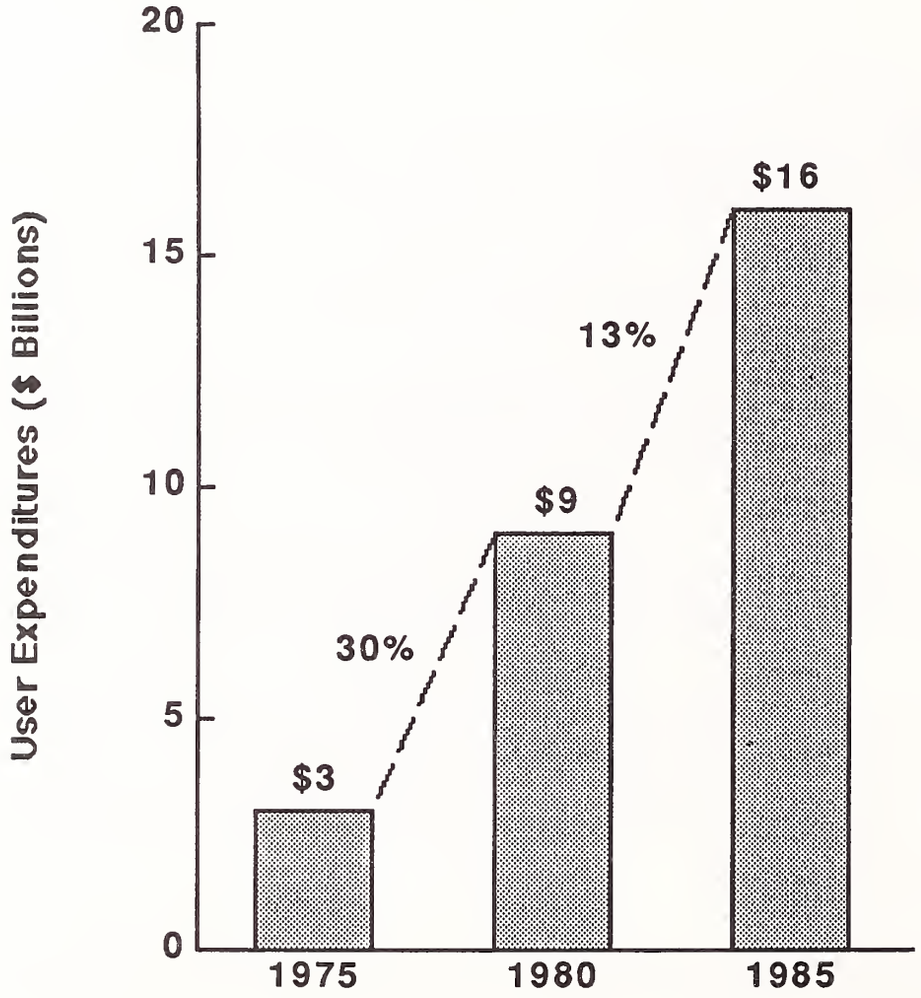
- The fundamental reason for growth in this segment is the change of emphasis in user demand and vendor services from computing cycles to network connectivity. This is represented by the change in name from processing to processing/network services.

- Additionally, many services bought by customers are not "computing," but "processing."

  - The classic example of such services are payroll services. Major vendors "grew" their payroll services in 1985 and will continue to do so. Not only is the market far from saturated, there are also major opportunities for associated additional services such as processing of employee benefits, health self-insurance systems, pension plans, etc.

EXHIBIT II-1

PROCESSING/NETWORK SERVICES MARKET



- Processing in third-party situations such as correspondent banking, credit card authorization, and claims processing also offer opportunities.

- In the above context, it is noteworthy that ADP, the largest payroll services company, went through the $1 billion a year revenue level in 1985, the first independent company to do so.

- The need for effective systems will drive medium-sized organizations in many industries toward facilities management (FM) or commercial systems integration. Industry-specialized organizations will continue to expand in these areas.

- Information distribution services will become the fastest growing and potentially the largest part of this industry segment. There are two basic kinds of information distribution, information aggregation and information switching.

  - Information aggregation (IA) is when a vendor or a third party aggregates information on a particular area and sells access to that information.

    . INPUT has called this the "on-line data base market." However, this term is no longer accurate in that we are often dealing with text, graphics, and other forms of information, not just "data."

    . Also, the remote distribution through compact disks (CD-ROMs) will impact the "on-line" characteristic. Typically, vendors will produce and store historic, archival, or other nonvolatile information on CDs for delivery to clients for operation on personal systems or through information centers. Volatile information will continue to be delivered electronically.

- Information switching is when the information is not aggregated and the vendor does not "own" it. The vendor identifies, organizes, and switches the information from a source to a receiver. Essentially, the vendor provides a communicating service.

  . "Electronic mail" is one such service which fits these criteria. It is growing rapidly on internal systems within organizations, often piggybacking on systems set up to perform other functions such as information center computers. The service opportunity lies primarily in communicating among different organizations. For example, the General Services Administration is now using electronic mail for the submission of certain responses to requests for proposals (RFPs).

- Electronic Data (Document) Interchange (EDI) is forecast by INPUT to grow extremely rapidly. Some have questioned the rapid growth of EDI, contrasting it with forecasts of the "checkless society" prevalent in the early 1970s (not from INPUT, it should be noted). However, there are compelling reasons for the growth of EDI.

  - One reason is that the cost per electronic transaction is declining and will decline from approximately a $1.00 today to less than $0.50 by 1990 while the cost for other transaction forms, particularly paper, will increase.

  - The major reason though, as always, is "time"--EDI saves time. In manufacturing, for example, it is virtually impossible to operate a "kanban," just-in-time system using paper-based interfaces. In Japan, most secondary factories are close to the primary factory. That is not the case in the U.S. where distances and transportation times are much greater. These are compelling reasons for EDI--that is why it will grow.

- The negative factors affecting its growth are the potential problems in legal and accounting processes. The lack of standards is important, but not as much as may be thought. "Standards" are being imposed by the big companies such as GM.

- Another processing/network service area analogous to EDI is that of electronic banking. With increasing and contradictory pressures on them to reduce costs and expand services at the same time, medium-sized financial institutions in particular are targets for systems and services. Networks to support Automated Teller Machines (ATMs) are most often operated by a bank itself or a consortium, as are point-of-sale (POS) networks which tie retailers and banks together. There are network service opportunities for shared services in these areas, and automated clearinghouse (ACH) services are also increasing in demand. To these markets can be added credit card and check authorization services and credit/debit card processing.

- Voice processing services are beginning to grow rapidly. Many companies are experimenting with internal systems; others are using services. Services become valuable when they allow intercompany voice-box messaging. In fact, voice processing services will limit the growth of electronic mail. If it is not necessary to have a paper record, there will be no need to keep the information.

- As some processing/network services expand, others are shrinking, the most noteworthy being the single-user, single application, problem-solving activities which used to be carried out on "timesharing" and have almost completely been transferred to personal computers.

III PROFESSIONAL SERVICES MARKET

- This sector has continued its stable growth pattern and, in fact, the rate of growth has increased in the most recent five year period to 23%. Exhibit III-1 shows this trend.

- INPUT forecasts professional services markets in the U.S. will continue strong growth over the next five years. Reasons for the market growth are:

  - "Price increases" due to the movement from commodity to specialized services.

  - Increased demand for services of all kinds due to the unavailability of internal resources.

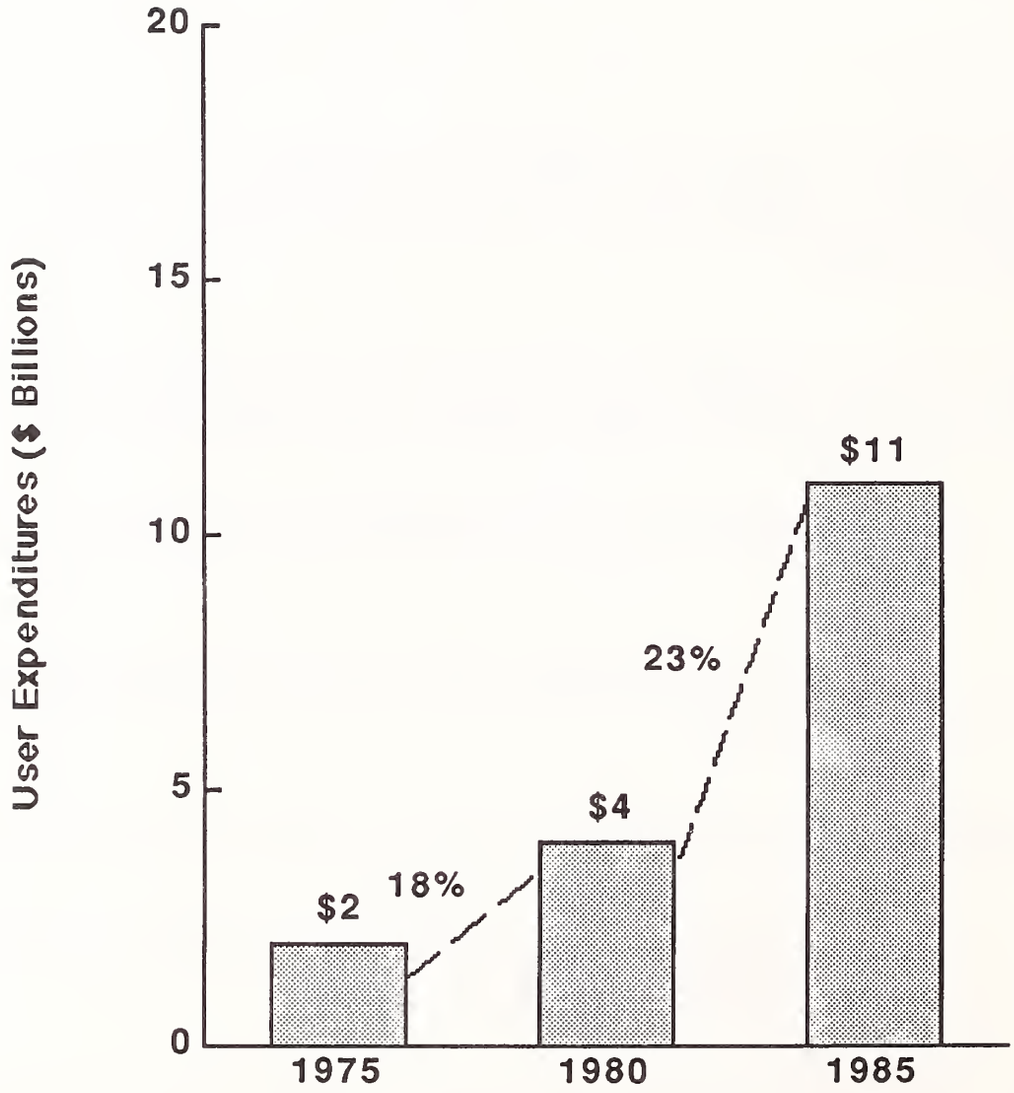
- Professional services vendors are providing two different types of services.

  - Commodity services, providing people with required characteristics to customers on a time and materials basis.

  - Value-added services, where the contractor takes responsibility for a project, has specialized expertise, or a combination of both. The ultimate expressions of these services are systems integration contracts in the manufacturing and banking industries.

EXHIBIT III-1

PROFESSIONAL SERVICES MARKET



- In commodity professional services there are a number of emerging trends.

  - "Brokers" are growing rapidly. These companies satisfy customer demands for certain types of people by searching them out and contracting with them to be "temporary help." The staff may not be employees of either the customer or the vendor; the staff work is directed by the customer. The vendor takes a mark-up on the compensation (fee/salary) of each individual of 25-30%. It is not unusual for a broker to have tens and sometimes hundreds of people placed in the same account.

  - Professional services organizations are partnering with product companies to develop differentiation and specialization. This is happening with both applications and applications development product companies.

- In the value-added service area, the specialization is of several kinds:

  - Vertical industry specialization is increasing rapidly. One objective is to take people with generic development skills and, by training and experience, transfer them into industry systems specialists.

  - Technical specialization in development or operational areas is in demand; for example, specialization in networks, artificial intelligence, or office systems.

- One emerging area of growth is commercial systems integration (SI). There have been large federal government SI contracts for many years. Recently, however, vendors have been attacking and virtually creating a commercial market. In an SI contract, the contractor is responsible for the acquisition of all hardware, software, people, and communications necessary to accomplish the system objectives. These contracts can be very large indeed--the largest federal contract is $11.4 billion for the implementation of the new FAA computer systems. Project "Enterprise" from VAL is likely to be over $1 billion in size.

IV SOFTWARE PRODUCTS MARKET

- The ten-year history of this sector has been truly phenomenal, with growth nearing 40% in both the five-year and ten-year periods, as shown in Exhibit IV-1. It also marked the emergence of "large" companies operating as independent software companies.

- This exceptional growth slowed dramatically at the end of the decade, declining in half to 17% from 1984 to 1985.

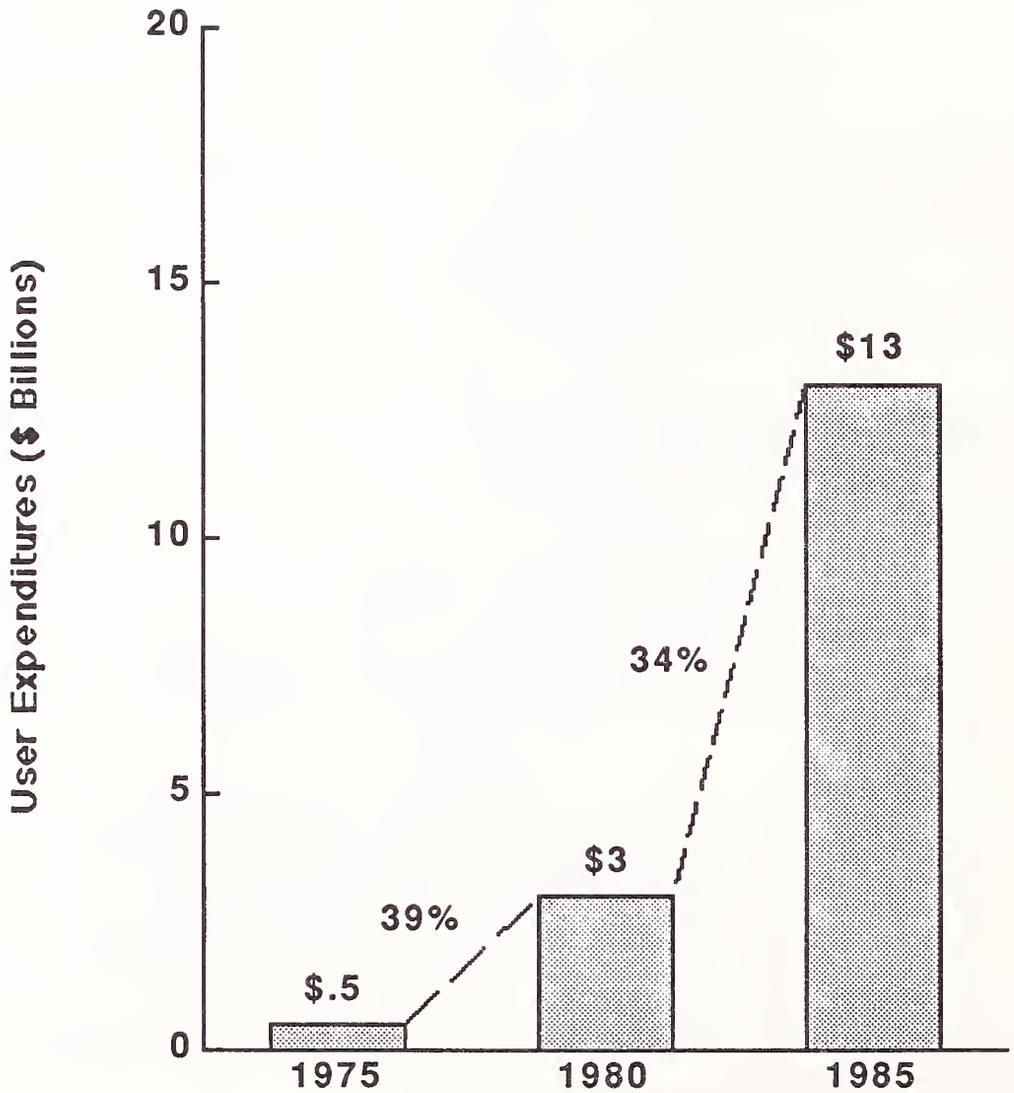
- However, INPUT expects the growth of this industry sector to recover for the remainder of the decade, but not at the previous rate. Growth rates of 20% or higher are forecast for both systems and applications software through 1990.

- The slowdown in this sector was caused by a variety of factors, foremost of which was the computer industry's overall slowdown. The number of computers bought as information center systems in 1985 declined from 1984; each such system typically had $200,000 to $400,000 of software from independent companies associated with it. Since the new computers were not installed, the new software was not bought.

- In the microcomputer area, as INPUT predicted, there were fewer business systems sold in 1985 than in 1984. Consequently, the software associated with "new installs" did not grow as rapidly. Compounding the problem was extensive discounting represented by the "bundling" of products, straight

EXHIBIT IV-1

SOFTWARE PRODUCTS MARKETS



discounts, and the emergence of less expensive compatible products. Much of the micro software, such as word processors, spreadsheet systems, and simple data base systems, is becoming "commodity" software.

- Price discounts were not limited in 1985 to micro-oriented software. There was heavy discounting in the mainframe/minicomputer software business. This was not represented by official policies or changes in list prices. These were discounts, really price cuts, offered in the field in order to make sales. Many sales managers confronted by a slowing industry frantically pushed salespeople to "make deals." Unfortunately, this resulted in unnecessarily lower revenues and profits because price was rarely the issue that was slowing the process down or which could result in a decision.

- Another reason for the slowdown in the software products market, particularly the applications area, was the problems vendors had, and are still having, with meeting design criteria and delivery schedules, not to mention in some cases with making the software function at all. Some public companies were the most glaring examples, but the problem is widespread. One consequence of the well-publicized failures was a concern on the buyer's side with all similar products, resulting in delays in procurements from all vendors.

- Even with products properly priced and delivered by a vendor, the digestion or absorbtion of those products in 1985 had a slowing effect in itself. Buyers can only absorb so many new things at once.

- When considering the growth rates in the applications and systems software areas, the role of the computer manufacturers becomes important. The systems software growth rate is much more secure than the applications software growth rate. As demonstrated last year, IBM not only introduced new systems software products, it also substantially increased the prices of its software. IBM and other manufacturers will continue these actions--new products and increased prices. Increased prices will not necessarily come from increasing the list prices, but by charging for upgrades, accelerators,

training tools, etc. associated with a given product; thus, the effective cost of the product to the user increases.

- In INPUT's opinion, IBM and other manufacturers will supply applications products in the forecast timeframe. Initially these will be in relatively high business volume areas such as banking and manufacturing mainline applications, but the process will then extend outward.

- The applications vendors are more protected from the computer manufacturers than the systems software companies, but there are pressures on the manufacturers to move in this direction also. The value-added in a system is increasingly in the application, hence the distribution of cost to the user will follow. Also, independent vendors are having difficulty with developing the new software required in the increasingly complex operating environment. User groups are going to the manufacturers, particularly IBM, asking for the development of products they can share. Thus, user demand, the cost of development, and the system cost distribution will all push manufacturers in this direction.

- Opposing the growth of the applications software product market is the trend to make software development easier. The use of software development methods and tools which make the process more efficient and effective allow users to develop custom solutions themselves or through professional services companies. However, INPUT considers that although the process may be able to be improved by 20% per year, the complexity and development requirements are growing more rapidly at the moment and this application product market will continue to thrive in the near term.

- In the 1990s, the development process will become more the assembly of software and systems from pre-established modules using very high-level "languages" or integrating software.

- In the micro software area, there will be continued strong growth. This growth is based on about a 20% growth per year in numbers of business systems installed, including replacements with more sophisticated 80286 and 80386-based systems. Consequently, there will be a need for more sophisticated multiuser, multitasking software to take advantage of these units.

- Overall, the software product market will be very different in 1990 from today. There will be more manufacturer control, internal corporate electronic distribution, subscription software, innovative pricing, and recurring revenues than in 1985.

V TURNKEY SYSTEMS MARKET

- Like software products, the turnkey business enjoyed success in the decade from 1975 to 1985, as shown in Exhibit V-1. The average growth was 30%.

- In 1985, turnkey systems companies faired very poorly overall (industry growth dropped from over 30% to 11%). INPUT continues to believe that the customer interest in hardware/software integrated solutions on a packaged basis is very high. However, the current distribution mechanism is flawed in several respects which have contributed to the rapid reduction in industry growth in 1985.

- The two problems with turnkey systems companies are:

  - They do not charge enough for the "value added" above the hardware cost.

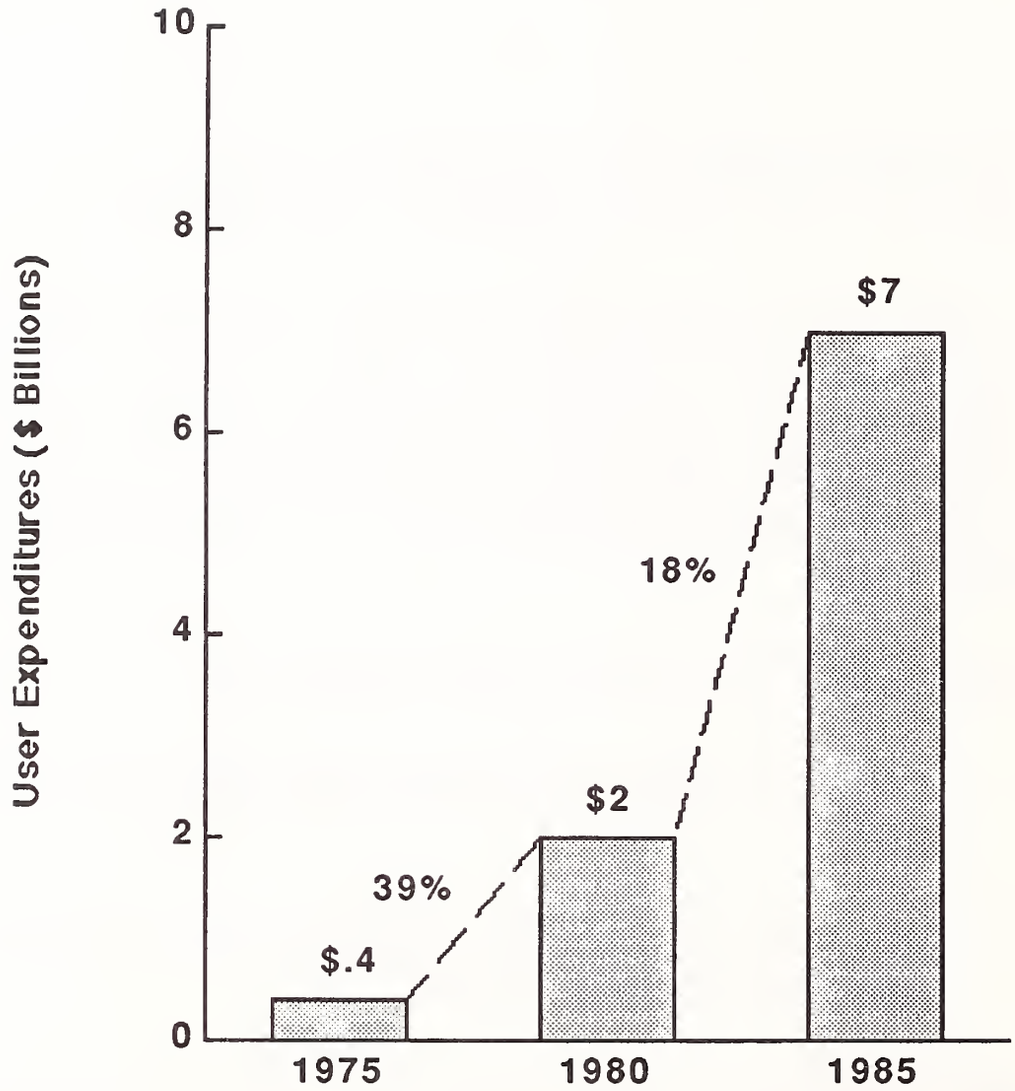
  - They do not have sufficient recurring revenues, so they are highly vulnerable in any kind of slowdown.

- The first problem not only means that many turnkey systems companies are inherently unprofitable, but also that they have no flexibility in pricing and are highly vulnerable to computer hardware manufacturers' actions.

- Over the next five years, INPUT expects that the growth rates will be slower because of:

EXHIBIT V-1

TURNKEY SYSTEMS MARKET



- Multi-year impact of the problems faced by many of these companies in 1985. For example, the drastic pruning of R&D budgets will reduce the flow of new products.

- Continuing price/performance pressures. For several years (1982-1984) turnkey systems companies were able to maintain price levels while the cost of computer hardware to them was declining. This fell apart in 1985, and their price reductions will continue.

- As with software products, turnkey vendors are desperately trying to move their revenue base to recurring revenues. This will dampen the market growth rate.

VI CONCLUSION

- The whole information industry has become much more volatile. It has gone beyond its embryonic and early growth stages and is reaching maturity. Thus, the industry is increasingly subject to variability in economic conditions. It is still true that information services are growing far more rapidly than the economy as a whole, but this will start to change in the 1990s. At the moment, we see transference of cost from computer hardware to software and service which is driving the market, but this process will run its course by the early 1990s.

- In this extremely volatile and increasingly competitive environment it is vital to plan. Many companies failed dismally to deal with the issues raised in 1985 because they were not planning oriented--they were still technology and/or sales driven. They could not respond to the basic market changes. It is essential that companies detect market and competitive changes and have a method of dealing with them. This is the planning process.

- Planning is a process, not a discrete event. Once-a-year regurgitation of a "plan" is archaic and ineffective. We are all familiar with the syndrome that the annual plan meets reality for the first month of its existence (often because the plan is only issued after the first month has passed) and rapidly diverges from reality (or rather, vice versa) with every passing month. Plans must be continually reviewed--rolling 4-quarter, rolling 12-month, and similar systems need to be installed.

- This change in process also requires everybody to be a "planner." INPUT does not advocate massive growth in central planning (we would then have the failures associated with this concept). Neither must the process become so "bogged down" in detail that it becomes overly cumbersome. It simply requires regular, systematic review and integration of market, product, technical, and competitive information into plans, starting at the smallest unit.

- Regular review implies weekly review of items affecting the next 6 to 12 months, and monthly review of items affecting the longer term with perhaps quarterly or semi-annual consolidation. This will allow change detection, identification, and qualifed reaction in an organized (and profitable) manner.

- It is vital that information provided through central planning groups who are the supporters and operators of the process be accurate and consistent. INPUT will continue to support these goals for the information services industry.

As the trade association for the computer software and services industry, ADAPSO celebrates its 25th year of providing leadership to the industry in 1986. Originally founded by 12 batch processing companies, ADAPSO has grown to include more than 800 firms that market micro, mini and mainframe software products, professional software services, network-based information services, integrated computer hardware/software systems, and processing services. ADAPSO provides members with government relations, public relations, research and statistics, conferences and seminars, legal support and joint purchasing programs.

INPUT®

This report was prepared for ADAPSO from INPUT's *Market Analysis and Planning Services for the Information Services Industry*. For further information on INPUT services call INPUT (415) 960-3990.